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[IXYS Integrated Circuits Division](#)

[M-949-01](#)

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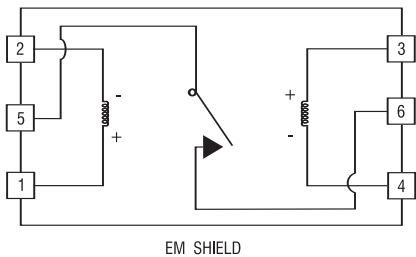
Features

- Senses telephone line current from 18 to 125mA
- Includes 1 Form A relay contact
- Maximum closure time 1 ms including bounce
- Achieves 63 dB minimum longitudinal balance
- Provides 1500 VDC coil-to-contact isolation
- Improved RFI shielding
- UL Recognized
- Applications include: central office products, PBX and key systems, rotary dial monitoring devices,

Description

The M-949-01 Line Sense relay is a small PWB-mount loop current detector with the safety and reliability features required for FCC Part 68 regulated telephone applications. When connected to the voice pair (Tip and Ring of an ordinary telephone line, the M-949-01 provides a 1 Form A relay closure in response to current above 20mA flowing through the wires. This closure can be used by control circuitry for on-hook/off-hook monitoring, switchhook flash detection, and rotary dial pulse counting. Simple in design and rugged in construction, the M-949-01 is ideally suited for use with the Teltone M-959, M-8870, M-8880, M-8888, and other loop current controlled telephone dialing receivers.

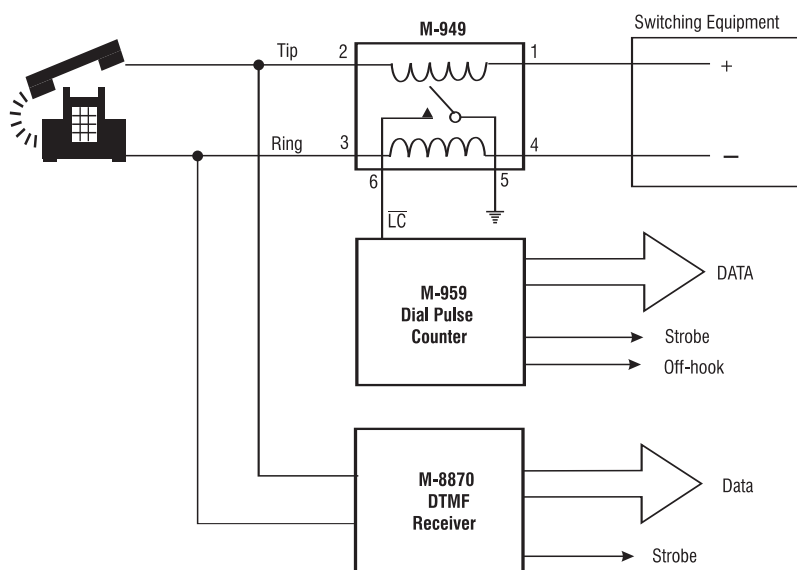
Figure 1 Electrical Configuration



Ordering Information

Part #	Description
M-949-11	Line Sense Relay

Figure 2 Typical Application: Dialed Digit Monitor



M-949-01

Absolute Maximum Ratings*

	Tolerance			
	Inches		Metric	
	Min	Max	Min	Max
A	-	1.20	-	30.50
B	-	0.41	-	10.40
C	0.345	0.375	8.76	9.53
D	0.125	0.140	3.18	3.56
E	0.016 typ.		0.41 typ.	
F	0.021	0.031	0.53	0.79
G	0.10 ref.		2.5 ref.	
H	0.10 typ.		2.5 ref.	
I	0.985	1.015	25.02	25.78

Absolute Maximum Ratings are stress ratings. Stresses in excess of these ratings can cause permanent damage to the device. Functional operation of the device at conditions beyond those indicated in the operational sections of this data sheet is not implied.

Specifications

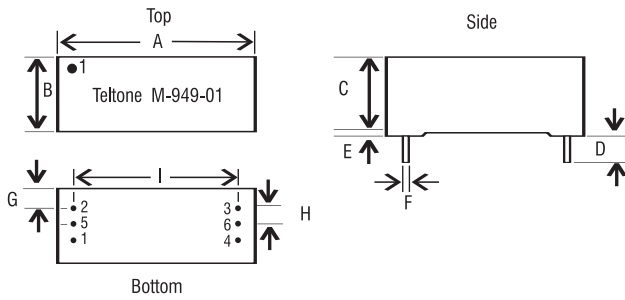
	Parameter	Conditions	Min	Max	Units	Notes
Dual Coils	Pick Up Current	0° to 70°C ambient	18	-	mA	1
	Drop Out Current	0° to 70°C ambient	-	6	mA	1
	Coil Current	20°C ambient	-	125	mA	2
	Coil Resistance	-	-	20	ohms	-
	Coil Inductance	-	-	4	mH	3
	Longitudinal Balance	-	63	-	dB	4
	Excitation to Closure Time (Including Bounce)	-	-	1	ms	5
	Excitation Removal to Open Time	-	-	0.5	ms	-
Relay Contact	Voltage Rating	-	200	-	VDC	-
	Current Rating	-	500	-	mA	-
	Power (Resistive) Rating	-	10	-	W	-
	Rated Life	-	10 ⁷	-	operations	6
Dielectric Strength	Open Contacts	-	300	-	VDC	-
	Coil to Coil	-	1000	-	VDC	-
	Coil to Contact	-	1500	-	VDC	-
Ambient Temperature	Operating	85% RH	0	70	°C	-
	Non-operating	95% RH	-20	70	°C	-

Notes:

1. With coils in series-aiding configuration.
2. With the current continuously applied.
3. At 1 kHz.
4. With current of 20-100mA at 200-3000 kHz.
5. With current of 20mA and coils series-aiding configuration.
6. At 10W (resistive.)
7. Maximum initial contact resistance ≤ 1.0ohms.



MECHANICAL DIMENSIONS



Dimensions
 mm
 (inches)

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Specification: DS-M949-01-R1.0
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 5/6/03